

**REMARKS**

In accordance with the foregoing, the specification and claims 4, 8, and 17 are amended. Claim 19 is added. No new matter is presented and, accordingly, approval and entry of the foregoing amendments and new claim 19 are respectfully requested. Claims 1-3 and 9-12 have are cancelled herewith without prejudice.

**STATUS OF CLAIMS**

Claims 4, 8, and 17-19 are pending and under consideration.

Claims 1, 4, 8-9, 12, and 16-18 are rejected.

**ITEM 2: REJECTION OF CLAIMS 1, 8-9 FOR ANTICIPATION UNDER 35 U.S.C. §102(b) IN VIEW OF GERRISH (US 2001/0040720) PUBLISHED NOVEMBER 15, 2001;**

**ITEM 4: REJECTION OF CLAIMS 4 AND 12 FOR ANTICIPATION UNDER 35 U.S.C. §102(b) BY OR, IN THE ALTERNATIVE, UNDER 35 U.S.C. §103(A) AS OBVIOUS OVER GERRISH;**

**ITEM 5: REJECTION OF CLAIMS 17-18 AS BEING UNPATENTABLE OVER GERRISH IN VIEW OF SUZUKI (US 6,335,821 PUBLISHED JANUARY 1, 2002);**

Independent claim 17 is amended herewith to specify that "a control unit that calculates a power of an amplified spontaneous emission (ASE) based on the power and temperature detection outputs, and adds a power factor that is determined by the power of the ASE to the input power, to maintain the gain of the optical amplifier at a predetermined value" (emphasis for the added language. Applicants believe that Gerrish and Suzuki alone or in combination do not anticipate the recitations of amended claim 17.

Claims 4, 8, 18 and 19 depending from claim 17 are also patentable over the cited prior art at least by inheriting patentable recitations from independent claim 17.

**NEW CLAIM 19**

New claim 19 recites a formula for the gain controlled by the control unit. Claim 19 is fully supported by the originally filed specification, for example, equation (1) on page 12 and the corresponding description.

**CONCLUSION**

It is respectfully submitted that the foregoing has clearly distinguished the pending claims over the references and rejections of record. Further, all outstanding objections have been overcome by the foregoing. There being no further outstanding objections or rejections, it is

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submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Date: Aug. 20, 2007

By: LT Todor  
Luminita A. Todor  
Registration No. 57,639

1201 New York Avenue, NW, 7th Floor  
Washington, D.C. 20005  
Telephone: (202) 434-1500  
Facsimile: (202) 434-1501